

following two reasons: "Firstly, because such problems aid in giving the student a clearer idea of the way in which the trigonometric functions vary as the angle is changed, and secondly, because of a very common lack of sufficient knowledge of polar coordinates on the part of students beginning the study of calculus." This work is introduced early in the book—earlier, indeed, than seems advisable, as it precedes the treatment of the relation of the functions of angles differing by  $90^\circ$  and  $180^\circ$ , a working knowledge of which would render the process of graphing far less difficult.

In the explanation of logarithms and the use of tables of logarithms and trigonometric functions, the authors have avoided the rather common error of being so brief as to be fully intelligible only to one already understanding the subject. Their treatment is clear and explicit, supplemented by problems for the student to solve.

CORA B. HENNEL.

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#### NOTES.

THE twentieth annual meeting of the American Mathematical Society will be held in New York City on Tuesday and Wednesday, December 30–31, 1913. At this meeting Professor H. B. FINE will deliver his Presidential Address, on "An unpublished theorem of Kronecker respecting numerical equations." Titles and abstracts of papers intended for presentation at the annual meeting should be in the hands of the Secretary by December 13.

THE opening (September) number of volume 15 of the *Annals of Mathematics* contains the following papers: "Singular point transformations in two complex variables," by G. R. CLEMENTS; "On the projective differential geometry of plane anharmonic curves," by S. W. REAVES; "On the rank of a symmetrical matrix," by L. E. DICKSON; "Note on the rank of a symmetrical matrix," by J. H. M. WEDDERBURN; "On the numerical factors of the arithmetic forms  $\alpha^n \pm \beta^n$ ," by R. D. CARMICHAEL.

THE concluding (October) number of volume 35 of the *American Journal of Mathematics* contains the following